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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/856,245	05/18/2001	Keiichi Kitagawa	L9289.01138	3980

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EXAMINER

HUANG, WEN WU

ART UNIT

PAPER NUMBER

2682

DATE MAILED: 01/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/856,245

Applicant(s)

KITAGAWA ET AL.

Examiner

Wen W. Huang

Art Unit

2682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-19, 29 and 30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17 is/are allowed.
- 6) ☒ Claim(s) 18, 19, 29 and 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 May 2001 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

1. Claims 18, 19, 29 and 30 are rejected under 35 U.S.C. 102(a) as being anticipated by Takeuchi et al. (US. 5,907,563; hereinafter "Takeuchi")

Regarding **claim 18**, Takeuchi teaches a transmitting apparatus (see fig. 7, component 71) used in a mobile communication system to transmit a signal by radio to a communicating party (see col. 1, line 13), the transmitting apparatus comprising:

a symbol rate determiner that determines a symbol rate (see fig. 1, component 25; "Strategy and Parameter Determining Unit", and col. 5, lines 42-52) that minimizes an error rate (see col. 1, line 58) based on a channel variation speed and a relative delay time of multipaths (see col. 8, lines 14-20; "fading rate" and "delay spread"); and

a transmitter that transmits data by radio based on said determined symbol rate (see fig. 1, component 12).

Regarding **claim 19**, Takeuchi teaches a transmitting apparatus (see fig. 7, component 71) used in a mobile communication system to transmit a signal by radio to a communicating party (see col. 1, line 13), the transmitting apparatus comprising:

a symbol rate determiner that determines a symbol rate (see fig. 1, component 25; "Strategy and Parameter Determining Unit", and col. 5, lines 42-52) that minimizes an error rate (see col. 1, line 58) based on a channel variation speed and a delay profile (see col. 8, lines 14-21); and

a transmitter that transmits data by radio based on said determined symbol rate (see fig. 1, component 12).

Regarding **claim 29**, Takeuchi teaches a transmitting (see fig. 7, component 71) method used in a mobile communication system to transmit a signal by radio to a communicating party (see col. 1, line 13), the method comprising:

detecting a channel variation speed between transmission and received signal (see fig. 1, component 24, col. 6, lines 38-44); and

determining a symbol rate of a transmitting signal (see fig. 1, component 25; "Strategy and Parameter Determining Unit", and col. 5, lines 42-52) having a reception of a best error rate characteristic (see col. 1, line 58) from the channel variation speed and relative delay times of multipaths (see col. 8, lines 14-21).

Regarding **claims 30**, Takeuchi teaches a transmitting (see fig. 7, component 71) method used in a mobile communication system to transmit a signal by radio to a communicating party (see col. 1, line 13), the method comprising:

detecting a channel variation speed between transmission and received signal (see fig. 1, component 24, col. 6, lines 38-44); and

determining a symbol rate of a transmitting signal (see fig. 1, component 25; "Strategy and Parameter Determining Unit", and col. 5, lines 42-52) having a reception of a best error rate characteristic (see col. 1, line 58) from the channel variation speed and a delay profile (see col. 8, lines 14-21).

Allowable Subject Matter

Claim 17 is allowed.

The following is an examiner's statement of reasons for allowance:

Regarding **claim 17**, Takeuchi fails to teach that wherein said symbol rate determiner determines the symbol rate such that a product of a transmitting time and a channel variation speed per symbol maintains a constant value.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

Applicant's arguments filed 11/22/2005 have been fully considered but they are not persuasive.

In response to Applicant's argument that Takeuchi does not teach determining a symbol rate for a transmission signal based on a channel variation speed, the Examiner respectfully disagrees.

More specifically, Takeuchi teaches a Strategy and Parameter Determining Unit 25 which determines FEC/Interleaving strategies and parameters based on a channel variation speed (i.e., Transmission Path Detecting Unit 24). A symbol rate is referring to a coded data rate coming from a FEC encoding unit (see Non Patent Literature; "CDMA IS-95 for Cellular and PCS" by Harte et al. pages 49-52; "Forward Error Correction" and "Interleaving"), wherein the FEC uses various coding method (i.e., BCH code or RS code) to encode a various number of information bits into a symbol (i.e., a BCH coded data or symbol is 15 bit in length including 4 information bits; see Takeuchi, col. 1, line 46). Since Takeuchi teaches data communication of 2400 bit/s or 9600 bits/s (i.e., bearer rates), the number of bits transmitted per second is invariable. Moreover, Takeuchi teaches various FEC/Interleaving strategies and parameters (see Takeuchi, col. 10, table 2) usage based on various transmission-path conditions. Therefore, the Examiner submits that the FEC/Interleaving strategies and parameters determine the transmission symbol rate for a transmission signal based on a channel variation speed.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wen W. Huang whose telephone number is (571) 272-7852. The examiner can normally be reached on 10am - 6pm.

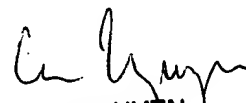
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris H. To can be reached on (571) 272-7629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2682

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

wwh

Wm
1/19/06


LEE NGUYEN
PRIMARY EXAMINER